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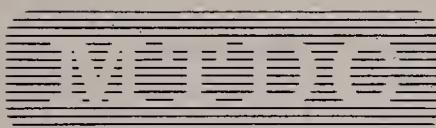
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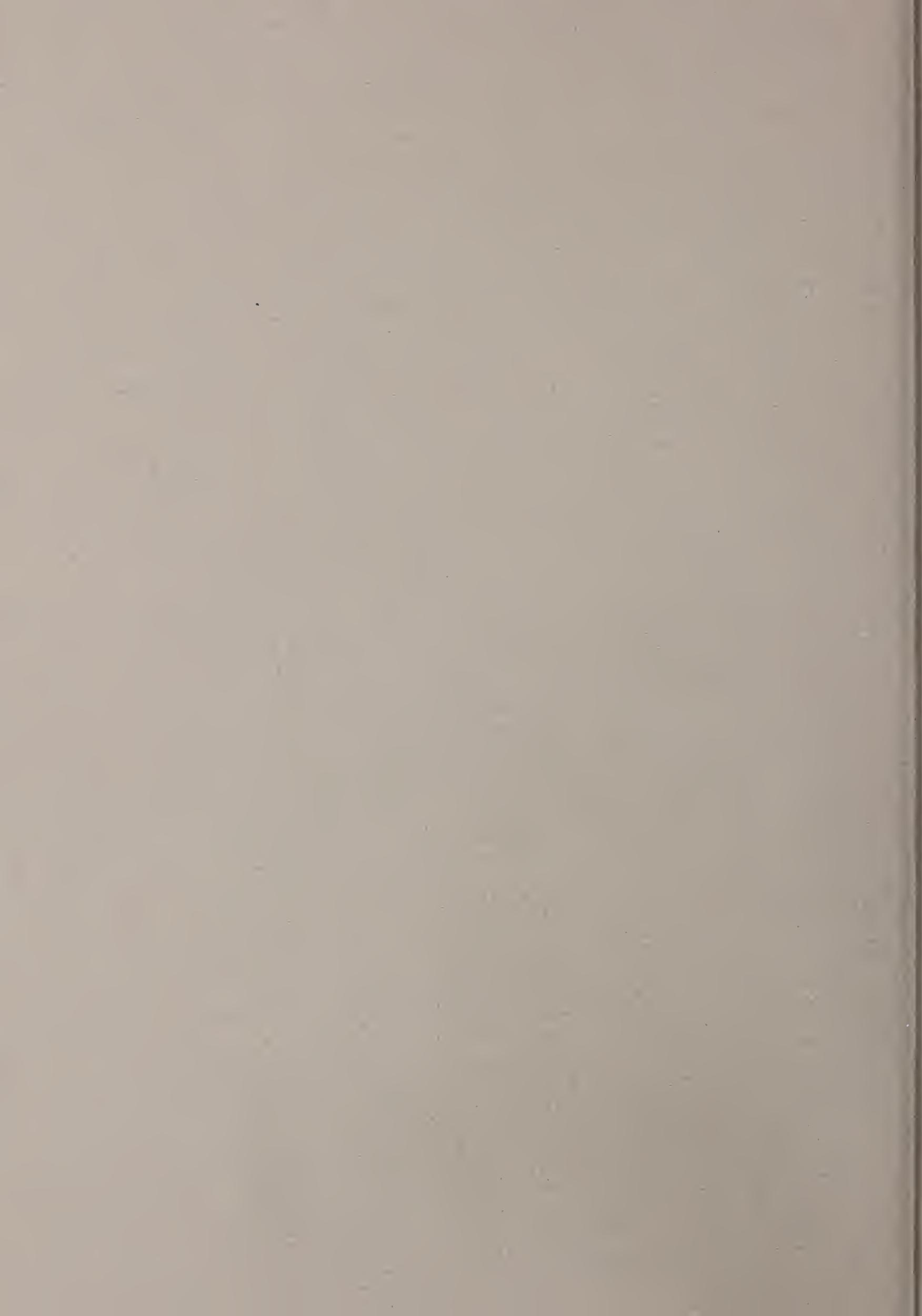
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Massachusetts Technology Development Corporation



**Massachusetts
Technology
Development
Corporation**

**Annual Report
1989**



MTDC Overview

Massachusetts has a long tradition of leadership in the application of technology to solve basic problems, meet human needs and advance the commercial success of new enterprises. In part, this history has been a result of the Commonwealth's need to provide premium-priced products for export to other parts of the nation and the world to offset the high cost of importing the basic resources of food and energy. The tradition has long been institutionalized through the large number of public and private universities, the strong system of public schools and the financial institutions that have supported these activities.

The fundamental prerequisites of a strong technology-based economy are technological talent, entrepreneurial leadership, and financial resources that encourage research and development and patiently nurture new industries. The government of the Commonwealth has taken a leadership role over the years in providing support for these basic needs.

MTDC History

In 1978 the Governor and the Legislature enacted a law creating the Massachusetts Technology Development Corporation as one of several economic development initiatives. MTDC was established to address the then existing "capital gap" for expansion of early-stage technology companies.

By the time MTDC commenced operation, the substantial reduction

in the federal capital gains tax in 1978 and increased investment in venture capital by pension funds helped to stimulate a significant increase in venture capital funds. As private venture capital flourished in the early 1980s, MTDC focused more of its investment activity on start-up companies where the "capital gap" continued to exist. MTDC established policies and practices to complement, not to compete with, private financial institutions. As a result, MTDC has been able to leverage between \$3 and \$5 of private co-investment for every \$1 of its investment in early-stage technology companies based in Massachusetts.

As the climate for venture capital investment in technology companies has changed in the late 1980s, MTDC has had to respond increasingly to the financing needs of small, existing Massachusetts technology companies that are seeking to expand. In addition, MTDC has made efforts to continue to diversify its investments among industries and geographic areas of the Commonwealth.

In 1986 MTDC began investing \$2,000,000 of the Massachusetts Pension Reserves Investment Trust (PRIT) under a management agreement with the Pension Reserves Investment Management Board (PRIM). These funds are invested in companies at later-stage rounds of financing where there are opportunities for substantial capital gains to benefit the PRIT.

MTDC Objectives

Through each phase of its existence, MTDC has pursued the following four basic objectives:

- to help create primary employment in technology-based industries in Massachusetts;
- to attract and leverage private investment in Massachusetts companies;
- to foster the application of technological innovations where Massachusetts companies are, or can be, leaders;
- to nurture entrepreneurship among Massachusetts citizens, planting the seeds for long-term economic development in the State.

MTDC Programs

While MTDC's Investment Program has been its most visible activity, the Management Assistance Program has been quietly helping entrepreneurs to launch or expand their businesses. Through the Management Assistance Program, MTDC's staff reviews initial business plans, provides counsel as to the most feasible ways of raising necessary capital from private and/or public sources, and assists companies in locating these alternative sources of funding without making an investment itself.

MTDC Board of Directors and Staff

Board of Directors

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Retired President
Kurzweil Computer Products, Inc.

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President
Candela Laser Corporation

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and Finance

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Artificial Intelligence Corporation

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Head, Department of Mechanical
Engineering
Massachusetts Institute of Technology

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Vice President

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Senior Investment Analyst

ELLEN M. KELLIHER
Investment Analyst

KAREN L. BUTTS
Controller

ESTHER E. LARSON
Office Manager

GAIL M. CORMIER
Administrative Assistant

MARIE B. PHANEUF
Public Information Officer

RUTH L. ROBER
Secretary

Report of the Chairman and President: MTDC's First Ten Years

The Massachusetts Technology Development Corporation completed its tenth year of investment operations on June 30, 1989. This was a significant milestone in MTDC's history.

During the fiscal year that ended June 30, 1989, MTDC capped its ten-year history by commencing several transitions. First, the Corporation reached the point where it could become entirely self-supporting. Second, the Corporation increased its participation in portfolio company follow-on investments, necessitated by the financing climate for technology companies since the October 1987 stock market crash. Finally, the Corporation began to develop a long-term plan to allocate gains to its Investment Program, with the primary objective of expanding the economic climate of the Commonwealth.

A few of the specific accomplishments in fiscal 1989 were:

- MTDC reached a cumulative total of 50 companies in which it had invested. Of these, seven were companies receiving a total of \$1.350 million of Pension Reserves Investment Trust (PRIT) funds. The investments made during FY89 are described in the section of this report entitled *Investments*.
- MTDC committed initial investments of \$1,425,000 to six companies, of which it closed \$950,000 in three companies — CimTelligence, Interactive Video Systems (IVS) and Voicetek. In addition, the Corporation committed follow-on investments totaling \$775,000 in seven portfolio companies, of which it had closed approximately

\$700,000 by year end. With respect to PRIT funds, MTDC closed a total of \$400,000 in two companies — IVS and SKY Computers.

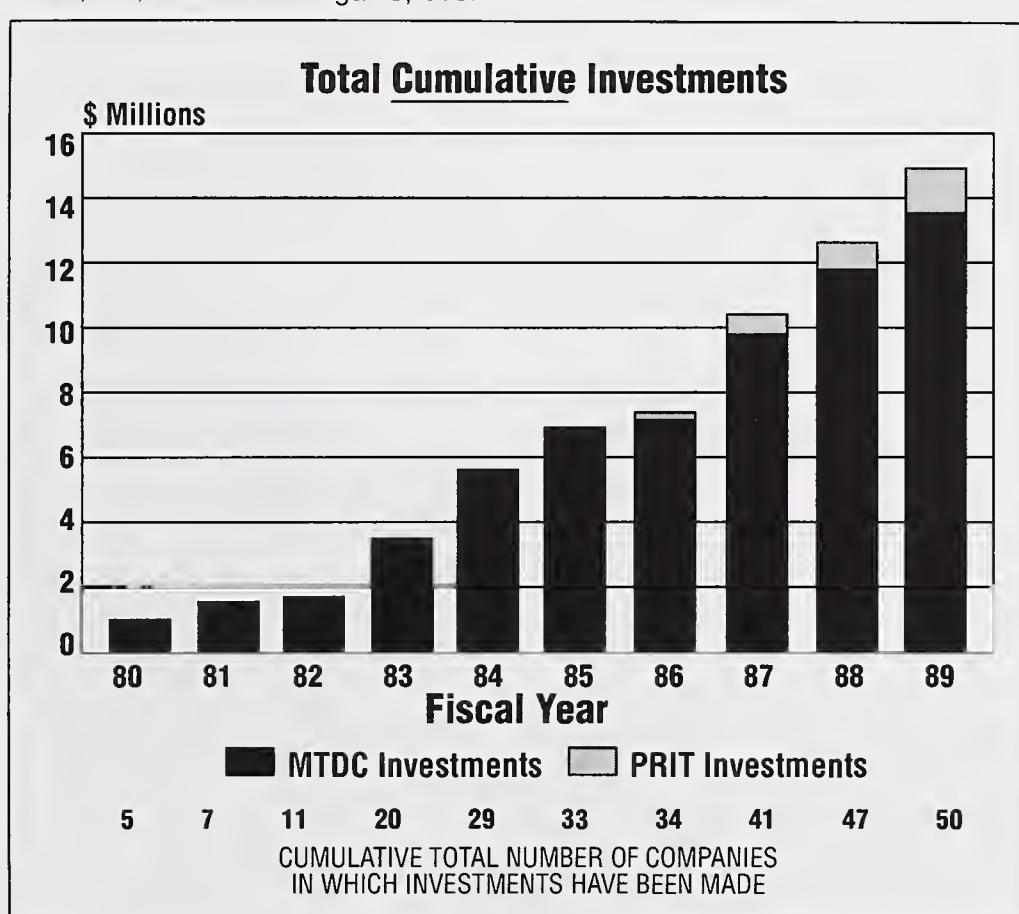
- Zoom Telephonics, Inc. became the eighth portfolio company to go public. Access Technology, Inc. was acquired by the CompuServe division of H&R Block, and AMDEV, Inc. was acquired by Baxter Healthcare Corporation.
- MTDC realized gains in Fiscal '89 of \$338,136 on equity investments. Realized losses on other equity investments were \$155,000 and on debt investments \$143,000. The cumulative realized gains on equity investments since 1980 total \$5,691,000, while cumulative losses on both debt and equity investments total \$1,567,000, for a net gain of \$4,124,000. Of these gains, over

\$4,000,000 have been allocated to fund future MTDC investments.

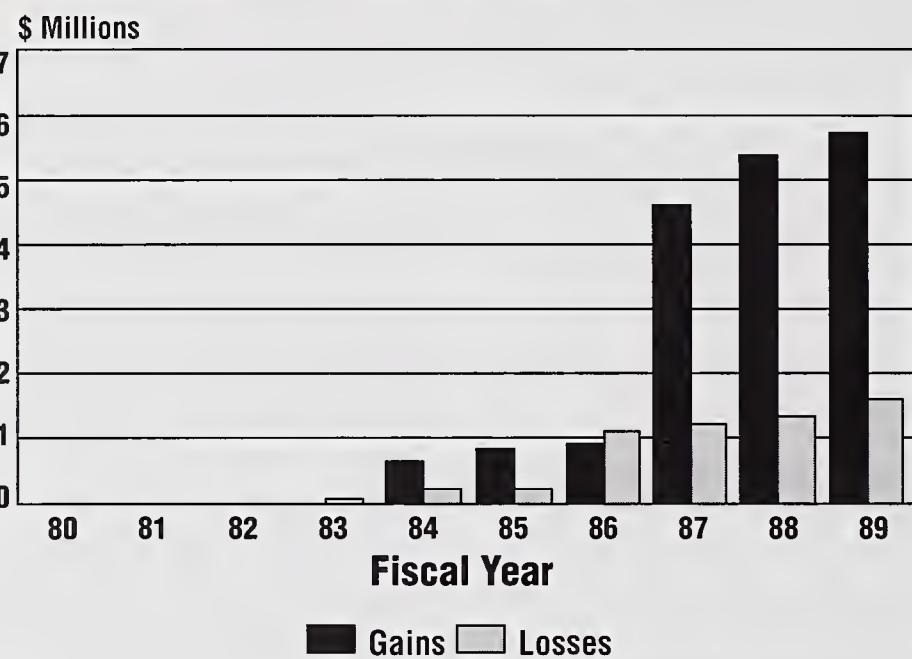
Financial Growth

Over the past ten years, MTDC has enjoyed steady financial growth. This record has been achieved by continuing to recycle net capital earnings into new investments which meet the criteria set forth in MTDC's charter. The **Total Cumulative Investments** graph summarizes investments closed over the ten years.

The graph entitled **Cumulative Realized Gains and Losses** outlines the history of realized gains and losses. The first investments by MTDC were not made until FY80, and the realization of significant gains or losses lagged between five and seven years. This is consistent with the patient investment horizon for early-stage venture capital firms.



Cumulative Realized Gains and Losses



Economic Benefits

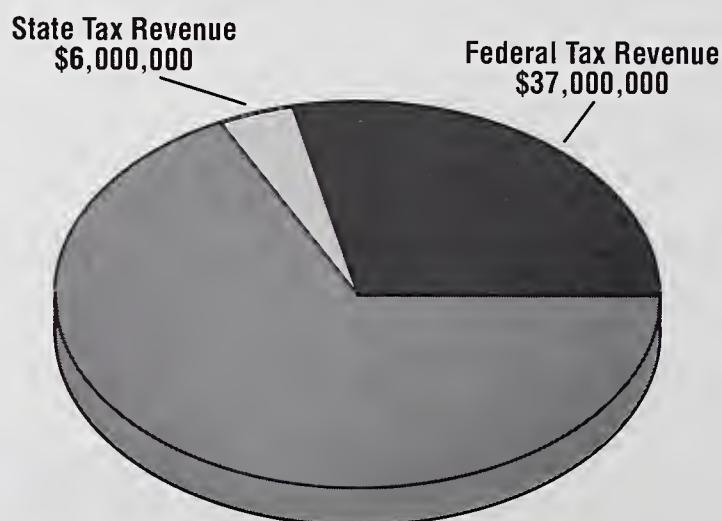
The principal objective of the MTDC Investment Program has been to assist early-stage technology companies to start or expand in Massachusetts. Despite the over \$30 billion of assets under venture capital management in the United States today, scientists, engineers and other first-time technology-oriented entrepreneurs find it difficult to start new businesses. Usually these entrepreneurs are seeking less than \$1 million in venture capital to launch their enterprises. Furthermore, these companies tend to project growth to \$20-30 million in sales within five or six years. The size of these investment opportunities has been too small to attract most venture capital firms.

On the other hand, these early-stage companies provide significant employment opportunities, purchasing power and long-term value to the Massachusetts

economy. To illustrate, as of December 31, 1988, the 41 active companies in which MTDC had invested employed over 3,700 people. This employment generated a reported annual payroll of over \$133 million, federal tax revenue of over \$37 million and state tax revenue of over \$6 million. These data are presented in the **Employment** graph. In addition, these companies annually purchased an estimated \$40 million plus of goods and services, much of which were from other Massachusetts companies.

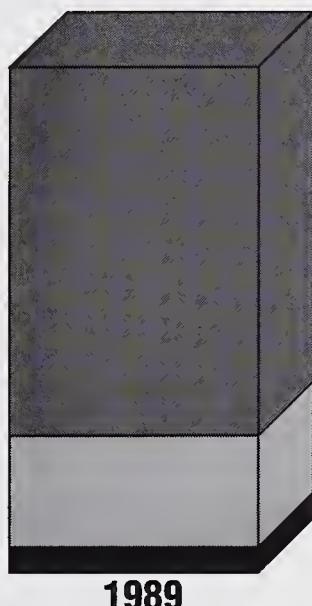
Most importantly, however, these companies are export-oriented. Their products are sold outside of the Commonwealth both nationally and internationally. Most of the

EMPLOYMENT Total Annual Payroll: \$133,000,000



INVESTMENT DOLLARS

Total Investment: \$230,400,000



companies have innovative products ready for introduction to global competition, and some are already drawing significant revenue from international trade. While they tend to sell products to narrow market niches, many are the leaders in their market segments.

Another economic benefit has been the significant amount of private co-investment that MTDC's Investment Program has leveraged in the portfolio companies. Through June 30, 1989, MTDC's cumulative investment of \$13.9 million leveraged an estimated \$64.3 million at the time of initial investment. Subsequently, these companies raised an estimated additional \$152.2 million. These data are presented in the

Investment Dollars graph. Since investment capital is very mobile, it is noteworthy that such a large amount has been attracted to the MTDC portfolio companies.

Changing Demands for Applications of Technology

Massachusetts has had a formidable track record over the last 50 years in addressing the broad market demands for technology products. For example, starting with new companies to build products for the aerospace defense needs of the United States, Massachusetts firms have grown to meet the demands in: (1) scientific and engineering computing, (2) office automation, (3) healthcare, (4) industrial automation and (5)

environmental management. However, the technological capacity to meet these broad demands has become widely dispersed throughout the United States and the world during the last decade. As a result, Massachusetts must continue to launch and sustain new, highly-competitive companies to maintain its position.

As the Massachusetts Technology Development Corporation enters the next decade, it has built a strong foundation upon which to continue its mission. Worldwide growth opportunities for early-stage technology companies will continue to emerge. To remain an economic leader, the Commonwealth must attract and nurture technology-oriented entrepreneurs. MTDC will maintain its focus on helping these entrepreneurs apply their technological talent to the production and sale of innovative products and the building of valuable businesses.

Howard N. Smith
Chairman

John F. Hodgman
President

Investments Approved

CIMTELLIGENCE CORPORATION

Lexington, MA

In April 1989 MTDC made a \$200,000 equity investment in CimTelligence Corporation. Co-investors with MTDC were Continental Illinois Venture Corporation and 3i Ventures.

CimTelligence was founded in 1985 to develop a factory automation software package aimed at the Group Technology/Computer Aided Process Planning (GT/CAPP) markets. Group Technology is a philosophy holding that manufacturers can exploit similarities and achieve efficiencies by grouping like problems, parts, tools and manufacturing plans.

IntelliCapptm, CimTelligence's full GT/CAPP system, consists of five software modules that identify and exploit the design and process planning similarities in a given company's mechanical and electrical parts, assemblies, products and tools. By recognizing, classifying and coding the similarities, a seemingly complex array of some 5,000 parts can be divided into perhaps 30 groups of like parts. These groups can then be broken out with increasing detail into families, clusters and cells.

By assigning descriptive attributes to all prior designs of parts, as well as the process plans that manufacturing engineers have drawn to most efficiently build those parts, CimTelligence's software allows a CAD/CAM designer or manufacturing engineer to easily retrieve earlier designs of the same or similar parts. He can then merely adapt an existing and proven design rather than reinvent the wheel.

In contrast to the complex Dewey Decimal-like coding system

employed by some vendors, IntelliCapp employs an artificial-intelligence-based natural language interface that through the use of keystrokes or voice recognition equipment gives the designers and engineers a quick, easy and exact window to past efforts that had previously gathered dust in a corner. Thus the manufacturer is avoiding a \$2,000 CAD/CAM effort and a six-week to six-month process planning effort, while standardizing and optimizing the manufacturing process.

enhancement processing technology in 1984 from the life sciences market to the semiconductor measurement market. As the lines and geometries on the typical semiconductor wafer became smaller and more complex, the ability of the human eye to quickly, accurately and continually perform quality control procedures had diminished. By 1987 these geometries had typically reached the 1.5 micron level, at which point automation of the measurement process became essential.

IVS seized this opportunity with its AccuVisiontm product, a family of submicron measurement systems for semiconductor wafers and masks that provides non-destructive, high-performance image enhancement through sophisticated software algorithms. As a result, IVS can provide critical dimension measurement, registration verification, and contact hole measurements down to 0.3 microns with repeatability and high throughput.

Using digital image processing combined with IVS' powerful software, AccuVision also provides distributed process control of the semiconductor fabrication process. This allows for continuous monitoring of the production so that process decisions can be made on a continuous and immediate basis.

IVS

the submicron metrology leader

Concord, MA

In November 1988 MTDC made an initial \$250,000 convertible subordinated debt investment in Interactive Video Systems, Inc. (IVS), and followed this in June 1989 with a \$250,000 equity investment. This equity infusion was made up of \$50,000 from MTDC funds and \$200,000 from the \$2 million of Pension Reserves Investment Trust (PRIT) funds which MTDC manages for the Pension Reserves Investment Management Board (PRIM). MTDC's co-investors in the original financing were First Capital Corporation of Chicago, Charles River Ventures, Zero Stage Capital, MDT Advisors and Venture Founders. In the June funding, Charles River Ventures, Zero Stage Capital, MDT Advisors and Venture Founders were joined by Wang Development and Investment Corporation.

Founded in 1980, the company refocused its digital image



Chelmsford, MA

In October 1988 MTDC invested \$200,000 of PRIT equity funds in SKY Computers, Inc. This investment is MTDC's second in SKY, having made an initial \$250,000 investment of its own funds in 1982. Joining MTDC as co-investors in the October financing were Summit Ventures, Allen & Co., MK International Ventures, Wood River Capital and 3rd Century Fund.

SKY Computers designs, manufactures and sells accelerator add-in boards and software tools for desktop supercomputing applications — simulation, finite element analysis, seismic analysis, fluid dynamics, financial modeling and other numerically intensive problems. This market is especially sensitive to computational performance in MFLOPS and MIPS, and conditionally sensitive to price/performance technology gains. Based upon technology advances, systems developers' projected needs and company history, SKY estimates that performance needs in MFLOPS for numerically sensitive problem solving will grow at an approximate rate of 45% annually.

The company makes three main product types to serve the needs of this market. They are digital signal

processing boards primarily for scalar problems, array processor boards for vector intensive programs, and application accelerators which operate in a wide variety of numerically sensitive user environments. SKY has just introduced an accelerator board, the SKYbolt, which is a performance leader in this market. The new board is the first application accelerator board which combines the Intel 1860 and 1960 RISC-based microprocessors with vectorizing compilers. With a rated 40 MIPS and 80 MFLOPS, the SKYbolt gives near supercomputer performance to workstation users. The first platform for the SKYbolt is the VME bus. SKY typically makes boards available for all of the popular high-end workstations.

The company's continued growth prompted a recent move from its Lowell facility to expanded quarters in Chelmsford.



Chelmsford, MA

In FY89 MTDC completed a \$450,000 investment in Voicetek Corporation. This was accomplished in two rounds of financing — the first a \$250,000 subordinated debt investment in October 1988, the second a \$200,000 equity investment in May 1989. Co-investing with MTDC were Corning Capital, EG&G Venture Management, First Eastern Merchant, Kearsarge Capital, NYNEX Corporation, Pioneer Capital, Providence Partnership II and UST Capital.

In December 1987 MTDC made its initial investment in the company with \$200,000 of PRIT equity funds.

Founded in 1983, Voicetek designs, manufactures and markets voice computer products that facilitate information delivery over the telephone network.

When a caller wishes particular information and dials the correct number, the voice computer "picks up" the phone, interfaces with the caller by synthesizing voice responses to commands given by the caller through the touch-tone keypad, routes the caller through several multiple choice questions to more narrowly define the requested information, states the information and "hangs up" the receiver. Voicetek's high-end products allow for up to 64 simultaneous callers requesting up to 100 hours of voice-digitized information kept in the computer's memory.

The company's expanding business necessitated a recent move from its quarters in Newton to new, larger facilities in Chelmsford.

MTDC's Current Portfolio by Industry

Computer Software and Services	22%
Computer Equipment and Peripherals	16%
Factory Automation Equipment and Systems	28%
Medical Instruments	9%
Fiber Optics	6%
Telecommunications	13%
Miscellaneous	6%

MTDC Publicly-Traded Companies

Name	IPO Date	Initial Investment Date	Exchange	Product Description
Spire	12/83	11/79	OTC	Alternative Energy — Photovoltaics
DISCOM	7/84	1/80	OTC	Video Display Deflection Yokes
Vitronics	10/84	5/83	OTC	Infra-red Technology
Pacer Systems	7/85	6/81	British Unlisted Securities Market	Avionics
Cambridge Analytical	4/86	3/85	OTC	Hazardous & Toxic Waste Analysis
Interleaf	6/86	8/82	OTC	Electronic Publishing Software
Xylogics	3/87	4/80	OTC	Computer Disc Controllers
Zoom Telephonics	8/88	8/85	Vancouver Stock Exchange	Telecommunications

The above schedule describes each company in which MTDC made an investment and which subsequently undertook an initial public offering of its securities.

One of the traditional ways in which venture capital investors realize a return on their investments is through the registration and sale of a portfolio company's stock in a public securities market. By the end of FY89, eight of the companies in which MTDC had invested had "gone public."

In six companies — Cambridge Analytical, DISCOM, Interleaf, Pacer, Spire and Xylogics — MTDC has sold its entire interest, resulting

in net gains of \$4,591,382. In the case of Vitronics, MTDC has sold a portion of its interest, resulting in net gains of \$88,000. The balance of publicly-traded securities that are still held by MTDC will be liquidated when: 1) the provisions of SEC regulations and contractual obligations permit their sale, 2) the value of the securities will yield an optimal gain, and 3) MTDC requires liquidity to meet operating and new investment fund needs.

The value of MTDC's holdings in publicly-traded securities fluctuates with the value of each company's stock in the public market. As of June 30, 1989, the total value of these securities, based upon the market bid price at that date, was \$644,520. In accordance with MTDC's accounting policies, the values of these publicly-traded securities are stated at cost in the enclosed financial statements.

INDEPENDENT AUDITORS' REPORT



Massachusetts Technology Development Corporation:

We have audited the accompanying balance sheets of Massachusetts Technology Development Corporation as of June 30, 1989 and 1988 and the related statements of revenues, expenditures, and changes in fund balances for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of Massachusetts Technology Development Corporation as of June 30, 1989 and 1988 and its revenues, expenditures, and changes in fund balances for the years then ended, in conformity with generally accepted accounting principles.

A handwritten signature in black ink that reads "Deloitte Haskins + sells". The signature is fluid and cursive, with a slight flourish at the end.

Boston, Massachusetts
August 18, 1989

Financial Statements

Balance Sheets, June 30, 1989 and 1988

ASSETS

	Notes	1989	1988
GENERAL SUPPORT:			
Cash and equivalents	2	\$ 277,361	\$ 481,748
Interest receivable		72,869	74,873
Other receivables:			
Sale of investment			53,125
Security deposit refund			5,175
Management fee		15,000	
Prepaid expenses and deposits		9,999	10,424
Leasehold improvements and office equipment –			
at cost less accumulated depreciation and amortization			
of \$68,102 in 1989 and \$84,920 in 1988	2	53,655	45,420
Restricted cash and equivalents	5	858,437	758,437
Total general support		<u>1,287,321</u>	<u>1,429,202</u>
RESTRICTED FOR INVESTMENT PROGRAMS:			
Cash and equivalents		2,421,258	3,623,372
Investments	2, 3	8,189,356	6,985,242
Total restricted		<u>10,610,614</u>	<u>10,608,614</u>
TOTAL ASSETS		<u>\$11,897,935</u>	<u>\$12,037,816</u>

LIABILITIES AND FUND BALANCES

GENERAL SUPPORT:			
Accrued liabilities		\$ 72,400	\$ 68,360
Fund balance		1,214,921	1,360,842
Total general support		<u>1,287,321</u>	<u>1,429,202</u>
RESTRICTED FOR INVESTMENT PROGRAMS –			
Fund balance	3	<u>10,610,614</u>	<u>10,608,614</u>
TOTAL LIABILITIES AND FUND BALANCES		<u>\$11,897,935</u>	<u>\$12,037,816</u>

See notes to financial statements.

**Statements of Revenues, Expenditures, and Changes in Fund Balances
for the Years Ended June 30, 1989 and 1988**

	Notes	General Support	Restricted Funds	1989	1988
REVENUES:					
Commonwealth of Massachusetts —					
Appropriation				\$ 248,000	
Gains on equity investment	2	\$ 338,136		720,700	
Interest earned	2	548,633		630,571	
Dividend income		11,706			
Management fee income	8	60,000		60,000	
Miscellaneous		1,525		9,998	
Total revenues		<u>960,000</u>		<u>1,669,269</u>	
EXPENDITURES —					
General support	4	805,921		814,507	
RECOGNIZED LOSSES					
ON INVESTMENTS			\$ (298,000)		\$ (75,000)
REVERSION OF GRANT	3	—	—	—	<u>(250,000)</u>
EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		154,079	(298,000)	854,762	(325,000)
INTERFUND TRANSFER	5	(300,000)	300,000	(500,000)	500,000
DISTRIBUTION	1			(750,000)	
FUND BALANCES, BEGINNING OF YEAR		<u>1,360,842</u>	<u>10,608,614</u>	<u>1,756,080</u>	<u>10,433,614</u>
FUND BALANCES, END OF YEAR		<u>\$1,214,921</u>	<u>\$10,610,614</u>	<u>\$1,360,842</u>	<u>\$10,608,614</u>

See notes to financial statements.

Notes to Financial Statements

1. Organization and Operations

Massachusetts Technology Development Corporation was created as a body politic and instrumentality of the Commonwealth of Massachusetts on October 19, 1978 pursuant to Chapter 497 of the Acts of 1978. The purpose of the Corporation is to provide financial and other assistance to innovative enterprises in Massachusetts that have the potential to expand and generate new jobs and tax revenues. The Corporation is governed by a Board of Directors consisting of eleven members, eight of whom are appointed by the Governor from the private sector and three of whom are public officials.

The Corporation is successor to the Massachusetts Science and Technology Foundation (which was simultaneously dissolved) and assumed all rights, assets and liabilities of the Foundation. Appropriations from the Commonwealth have been a significant source of funding for both the Corporation and its predecessor. Certain appropriation acts imposed an obligation to reimburse the Commonwealth for amounts appropriated for operations; however, in 1972, the Massachusetts Attorney General issued an opinion that "such continued funding by the Commonwealth suggests that the Legislature is mindful that the Foundation requires state support until such time as it is able to be self-supporting." On June 29, 1988, the Corporation made a distribution to the Commonwealth of \$750,000. On July 16, 1988, the Legislature and Governor enacted legislation to accept the distribution in full satisfaction of all obligations of appropriated funds since inception.

2. Summary of Significant Accounting Policies

Cash and Equivalents

Cash and cash equivalents consist of certificates of deposit with original maturities of less than one year.

Property and Equipment

Property and equipment are stated at cost and are being depreciated on a straight-line basis over estimated useful lives ranging from three to ten years. Depreciation expense for the years ended June 30, 1989 and 1988 approximated \$20,800 and \$22,600, respectively.

Investments

Investments, consisting of notes receivable and investments in capital stock (Note 3), are recorded at cost. Upon the occurrence of a specific event which creates a decline in value which is determined to be other than temporary, the investment is written down and an investment loss is recognized. Interest earned is credited to the Corporation's General Support Funds. Gains on investments are credited to the Corporation's General Support Funds when realized and losses are charged against Restricted Fund Balances. Repayments of principal and proceeds from the sale of equity investments (to the extent of the cost basis) remain in funds restricted for investment programs. During the years ended June 30, 1989 and 1988, the Corporation realized gains on the sale of investments totaling \$338,136 and \$720,700, respectively. For the years ended June 30, 1989 and 1988, the Corporation charged \$298,000 and \$75,000, respectively, against restricted funds as losses on investments.

Income Taxes

The Corporation, as an instrumentality of the Commonwealth, is not required to pay federal or state income taxes.

3. Investment Programs

Sources of Funds

The Corporation's original investment funds were provided in 1979 by a \$2,000,000 grant (including \$28,000 in start-up costs) from the Economic Development Administration (EDA), U.S. Department of Commerce. Under this grant, the Corporation makes loans from a revolving loan fund to eligible borrowers, defined as Massachusetts-based

businesses with operations involving a significant amount of technology, which are located in EDA Title IV redevelopment areas and which meet the requirements of the Corporation's enabling act.

During the year ended June 30, 1981, the Corporation was awarded a \$1,000,000 grant under the Corporations for Innovation Development (CID) program of the U.S.

Department of Commerce. The grant award is for the purpose of establishing a second revolving loan fund to assist in the creation and development of small, innovative high-technology companies in Massachusetts. In addition, the Commonwealth of Massachusetts appropriated \$1,000,000 to the Corporation as matching funds for the federal grant. The Commonwealth appropriation is restricted to equity investments.

Each year from fiscal years 1982 to 1988, the Commonwealth of Massachusetts appropriated additional amounts to augment the Corporation's investment fund. No such appropriations were made for fiscal year 1989. During fiscal year 1988, the Secretary of Administration and Finance directed a \$250,000 grant reversion in order to meet other financial needs of the Commonwealth. At June 30, 1989, the cumulative amount of appropriations less the grant reversion totaled \$4,200,000.

Investments

During the years ended June 30, 1989 and 1988, the Corporation made loans and equity investments in aggregate amounts of \$1,907,396 and \$2,029,597, respectively. The terms of certain notes include an equity participation feature such as rights to convert to stock at a predetermined price or warrants to purchase common stock, in addition to interest due monthly at rates varying from 7% to 13% per year. Repayment of principal is generally due either on demand or in monthly installments ranging from thirty-six to sixty months, commencing six months to five years from the date of the loan. Such principal payments, however, are generally subordinated to the payment of senior debt of the borrowers.

A summary of investment activity is as follows:

	Notes Receivable	Equity Investments	Total
Investments made:			
1980 through 1987.....	\$ 5,868,818	\$ 4,047,038	\$ 9,915,856
1988	704,581	1,325,016	2,029,597
1989	<u>969,500</u>	<u>937,896</u>	<u>1,907,396</u>
Total investments.....	7,542,899	6,309,950	13,852,849
Conversions of loan principal to equity	(1,038,996)	1,038,996	
Less loan principal repayments and equity investment costs recovered.....	(2,988,055)	(1,108,852)	(4,096,907)
Loss on investments:			
1983 through 1987.....	(684,665)	(508,921)	(1,193,586)
1988	(75,000)	(75,000)	(75,000)
1989	<u>(143,000)</u>	<u>(155,000)</u>	<u>(298,000)</u>
Investment balance, June 30, 1989.....	<u>\$ 2,688,183</u>	<u>\$ 5,501,173</u>	<u>\$ 8,189,356</u>

As of June 30, 1989 and 1988, there were outstanding commitments for loans and capital investments totaling \$275,000 and \$1,021,000, respectively. In addition, the Corporation had guaranteed bank loans totaling \$130,000 as of June 30, 1989.

Notes to Financial Statements

4. General Support Expenditures

The Corporation's General Support expenditures for the years ended June 30, 1989 and 1988 were as follows:

	1989	1988
Personnel costs.....	\$ 534,201	\$ 529,398
Professional expenses.....	37,357	41,056
Occupancy costs.....	115,754	102,270
Office services and supplies.....	54,106	52,881
Travel, meetings and conferences.....	28,000	34,295
Publications and advertising.....	19,611	30,054
Miscellaneous.....	<u>16,892</u>	<u>24,553</u>
Total expenditures.....	<u>\$ 805,921</u>	<u>\$ 814,507</u>

5. Restricted Cash - General Support

The Board of Directors voted to transfer \$300,000 and \$500,000 from General Support funds to Restricted for Investment Program funds for the years ended June 30, 1989 and 1988, respectively. In addition, during 1989 the Directors voted to restrict a total of \$858,437 of General Support funds for certain investment-related activities.

6. Office Facility Lease

The Corporation has a lease commitment for office space extending through April 1993. The agreement provides for base rent plus operating expenses, a five-year renewal option and tax escalation clauses. Minimum base rental commitments under this agreement are: 1990, \$103,700; 1991, \$105,100; 1992, \$112,400; and 1993, \$93,700. Rent expense for the years ended June 30, 1989 and 1988 approximated \$109,500 and \$95,400, respectively.

7. Pension Plan

The Corporation has a defined contribution pension plan covering substantially all employees. Terms of the plan require the Corporation to make minimum annual contributions of 10% of salaries. Contributions charged to expense in 1989 and 1988 approximated \$38,800 and \$44,900, respectively.

8. Management Fee Income

The Corporation has an agreement with the Pension Reserves Investment Trust ("PRIT"), a Massachusetts state employee pension trust, whereby the Corporation will provide investment advisory and management services relative to \$2 million of PRIT assets. The Corporation receives an annual management fee of \$60,000 for its services. In addition, the Corporation is entitled to receive 20% of all distributions resulting from the sale of investments after the original contribution to its investment account of \$2 million has been returned to PRIT. As of June 30, 1989, cumulative distributions returned to PRIT from its investment account totaled \$400,000, of which \$200,000 resulted from gains on an investment.

Legal Counsel
Palmer & Dodge
Boston, Massachusetts

Auditors
Deloitte Haskins & Sells
Boston, Massachusetts

Bankers
Shawmut Bank of Boston, N.A.
Boston, Massachusetts

Printers
Blanchard Press
Boston, Massachusetts

How to Apply

What the Applicant Does:

The applicant submits a comprehensive business plan. A well-thought-through plan reduces the need for questions and speeds the investment process, which oftentimes can be completed in eight to twelve weeks. The plan should address the following areas:

- characteristics and proprietary position of the company's products or services;
- present and future markets for those products or services;
- strategy for achieving and maintaining significant market share;
- company's financial history (if applicable) and projections, including balance sheets, profit and loss statements and cash flows;
- backgrounds, experience and financial commitments of principals and key managers;
- statement of the amount, timing and projected use of the capital required;
- statement of the projected growth in employment, or other positive economic impacts, which an MTDC investment would facilitate.

Proposals for financing should be addressed directly to the President, John F. Hodgman, at MTDC's Boston office.

What MTDC Does:

MTDC's professional staff negotiates with each company an investment whose terms are specifically tailored to meet the needs of the company, the interests of the co-investor and the goals of MTDC. Applications are invited not only from entrepreneurs who are principals in their own firms but also from members of the venture capital, banking, legal, auditing and academic professions who are familiar with business opportunities.

MTDC seeks to make all of its investments on a co-venture basis with compatible professional investors from the private sector. These may include venture capital firms, banks, SBICs, insurance companies, limited partnerships, informal investor networks, and individual and corporate investors with substantial net worths.

The size of MTDC's initial funding to an applicant is determined by the capital needs of the firm and the investment of the co-investor. Though investments can range up to a maximum of \$500,000, most are typically in the \$100,000 to \$250,000 range.

Investments are made as debt, equity or a combination of both. The debt portion of the financing is usually a long-term, unsecured, subordinated note with a partial moratorium on principal repayment. As a condition of providing such favorable debt financing, MTDC seeks an equity participation which is fair and reasonable when compared to the investment being made by the co-investor. Typical equity participation is through the purchase of the company's stock.

MTDC Procedures:

MTDC's Investment Analysts are assigned cases to review and monitor as appropriate under each of its programs. The cases are discussed at regular staff meetings, and those that qualify for investment are closely reviewed by MTDC's management for recommendation to the Board of Directors. Before an investment is approved by the Board, the management of the company will meet with Board Members, and a detailed investment report prepared by MTDC staff will be reviewed and analyzed.

No formal application is necessary, but the presentation of a written business plan is required before an in-depth review of the proposal can be undertaken. MTDC makes investments only in companies with the following characteristics:

- The company must be located in, or agree to locate in, Massachusetts.
- The company's business must be technology based, and its principal products or services must be sufficiently innovative to provide a competitive advantage.
- The business expansion which MTDC's investment would help to finance must produce a significant growth in employment.
- The company must be able to demonstrate that it has been unable to secure from conventional sources sufficient capital on affordable terms to finance its expansion.
- The company must be able to show the prospect of a high rate of return on investment.

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JAN 5 1992

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CHARLESTOWN, MASS

